

HAYNES et al
Appl. No. 10/518,523
December 1, 2008

RECEIVED
CENTRAL FAX CENTER

DEC 01 2008

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Original) A fusion protein comprising:
 - i) an IgG Fc component,
 - ii) an HIV envelope component, and
 - iii) a C3d component.
2. (Original) The protein according to claim 1 wherein said IgG Fc component is present in said fusion protein N-terminal to said HIV envelope component.
3. (Original) The protein according to claim 1 wherein said HIV envelope component is present in said fusion protein N-terminal to said C3d component.
4. (Original) The protein according to claim 1 wherein said IgG Fc component is present in said fusion protein N-terminal to said HIV envelope component and said HIV envelope component is present in said fusion protein N-terminal to said C3d component.
5. (Original) The protein according to claim 1 wherein said protein further comprises at least one intervening sequence between at least 2 of said components.

HAYNES et al
Appl. No. 10/518,523
December 1, 2008

6. (Original) The protein according to claim 1 wherein said IgG Fc component is a human IgG Fc component.

7. (Original) The protein according to claim 1 wherein said C3d component is a human C3d.

8. (Original) The protein according to claim 1 wherein said C3d component targets said fusion protein to antigen presenting cells that express CD21 and thereby promotes antigen presentation.

9. (Original) The protein according to claim 1 wherein said HIV envelope component is HIV-1 gp120, gp140, gp160, gp41, or immunogenic portion of gp120 or gp41.

10. (Original) The protein according to claim 1 wherein said HIV envelope component comprises residues of the V3 domain of gp120 and includes a B cell neutralizing antibody epitope.

11. (Original) An immunogenic composition comprising at least one of said fusion proteins according to claim 1.

12. (Original) The composition according to claim 11 wherein said composition further comprises a carrier.

HAYNES et al
Appl. No. 10/518,523
December 1, 2008

13. (Currently Amended) A complex comprising ~~said~~ a fusion protein, said fusion protein comprising:

- i) an IgG Fc component,
- ii) an HIV envelope component, and
- iii) a C3d component according to claim 1,

wherein said HIV envelope component of said fusion protein is activated so that intermediate conformations of conserved neutralization epitopes of said HIV envelope component are exposed.

14. (Currently Amended) A complex comprising ~~said~~ a fusion protein, said fusion protein comprising:

- i) an IgG Fc component,
- ii) an HIV envelope component, and
- iii) a C3d component, according to claim 1

wherein said HIV envelope component is bound to a ligand that upregulates at least one of a CD4 binding site and a CCR5 binding site of said HIV envelope component.

15. (Original) The complex according to claim 14 wherein said ligand is an antibody, or Fab₂ or Fab fragment thereof.

HAYNES et al
Appl. No. 10/518,523
December 1, 2008

16. (Original) The complex according to claim 14 wherein said ligand binds to a CCR5 binding site of said HIV envelope component and upregulates a CD4 binding site of said HIV envelope component.

17. (Original) The complex according to claim 16 wherein said ligand upregulates a CCR5 and a CD4 binding site on said HIV envelope component.

18. (Withdrawn) A method of inducing an immune response in a mammal comprising administering to said mammal an amount of said fusion protein according to claim 1 sufficient to effect said induction.

19. (Withdrawn) A nucleic acid sequence encoding said fusion protein according to claim 1.

20. (Withdrawn) An expression vector comprising the nucleic acid according to claim 19 operably linked to a promoter.

21. (New) A method of inducing an immune response in a mammal comprising administering to said mammal an amount of said complex according to claim 13 sufficient to effect said induction.

22. (New) A method of inducing an immune response in a mammal comprising administering to said mammal an amount of said complex according to claim 14 sufficient to effect said induction.